

U.S. Patent Application Serial No. 10/648,356  
Amendment filed August 29, 2005  
Reply to OA dated May 27, 2005

**AMENDMENTS TO THE CLAIMS:**

Claims 1 - 7 have been canceled without prejudice or disclaimer. The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1 - 7 (Canceled)

Claim 8 (Original): An optical semiconductor device comprising  
an optical multilayer film that is located on an light incident plane or a light emitting plane,  
the optical multilayer film having a laminated structure that at least includes a first layer, a  
second layer containing titanium oxynitride as a main component, and a third layer containing  
magnesium fluoride as a main component, the first layer having a different refractive index from that  
of the second layer or the third layer,

the laminated structure having a plurality reflection planes,

the thickness of the third layer being smaller than  $1/4$  wavelength.

Claim 9 (Original): The optical semiconductor device as claimed in claim 8, wherein the first  
layer and the second layer are in contact with each other.

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Claim 10 (Original): The optical semiconductor device as claimed in claim 8, wherein another layer is interposed between the first layer and the second layer.

Claim 11 (Original): The optical semiconductor device as claimed in claim 8, wherein:  
the first layer contains magnesium fluoride; and  
the second layer is sandwiched by the first layer and the third layer.

Claim 12 (Original): The optical semiconductor device as claimed in claim 8, wherein the first layer contains silicon oxide as a main component.

Claim 13 (Original): The optical semiconductor device as claimed in claim 8, wherein the optical multilayer film is a reflection preventing film or a highly reflective film.

Claim 14 (Original): The optical semiconductor device as claimed in claim 8, wherein the second layer is a layer formed by ion-assisted deposition.

Claim 15 (Original): The optical semiconductor device as claimed in claim 8, wherein at least the light incident plane or the light emitting plane is sealed with resin.

Claim 16 (Original): An optical semiconductor device comprising  
an optical multilayer film that includes a plurality of layers having different refractive indices  
on a light incident plane or a light emitting plane,  
the optical multilayer film being able to exhibit first optical characteristics that are obtained  
by causing a refractive index difference between an outermost layer and the air or an inert gas, and  
second optical characteristics that are obtained by not causing a refractive index difference between  
the outermost layer and a material existing on the external side of the outermost layer, and  
the first optical characteristics and the second optical characteristics being substantially the  
same.

Claim 17 (Original): The optical semiconductor device as claimed in claim 16, wherein  
the first optical characteristics and the second optical characteristics both satisfy optical requirements  
of a case where another material is provided in contact with the outermost layer of the optical  
multilayer film.

Claim 18 (Original): The optical semiconductor device as claimed in claim 16, wherein the  
second optical characteristics are obtained by providing resin in contact with the outermost layer of  
the optical multilayer film.

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Claim 19 (Original): The optical semiconductor device as claimed in claim 16, wherein the optical multilayer film includes a layer that contains titanium oxynitride as a main component, and a layer that contains magnesium fluoride as a main component.

Claim 20 (Original): The optical semiconductor device as claimed in claim 8, further comprising a fourth layer having a refractive index higher than that of the first layer.